

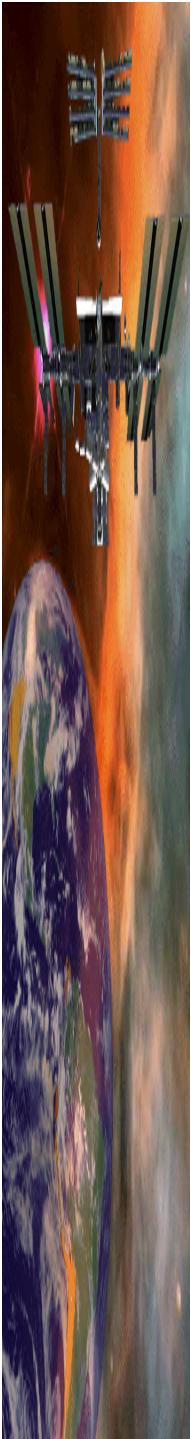
CETDP Plan for FY00

- CETDP Program
- Organizational Chart
- Solicitation Process
- Proposed FY00 Technologies
- CETDP Schedule

Presented by:
Janice Buckner
Cross Enterprise
Technology Office
(CETO)

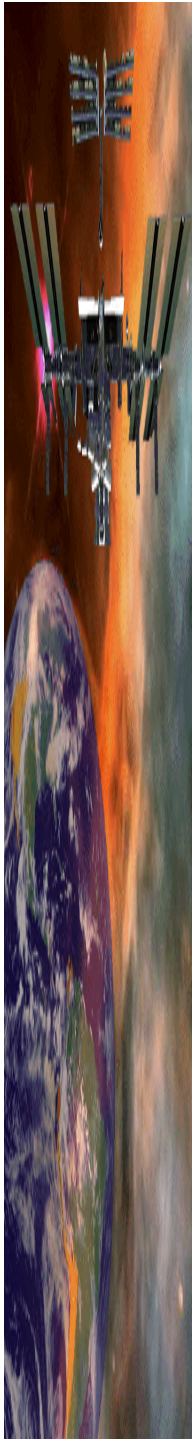
Sept. 14, 1999

janice.l.buckner.1@gsfc.nasa.gov
301-286-0171



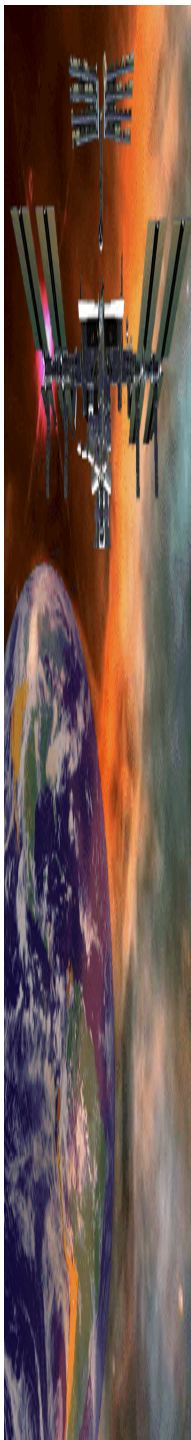
CETDP Program Basics

- **Cross-Enterprise Technology Program (CETDP)**
 - FY1999 budget in 10 thrust areas \$150.3 M, FY 2000: \$162.1
 - CETDP is the major component of NASA's long term instrument and spacecraft technology activities
- **Focus on low maturity technology, emerging technologies that will have a broad impact across the agency**
 - Amortize NASA investment in leading edge technologies by spreading benefits and infrastructure across Enterprises
 - Leverage developments across Enterprises and other government agencies

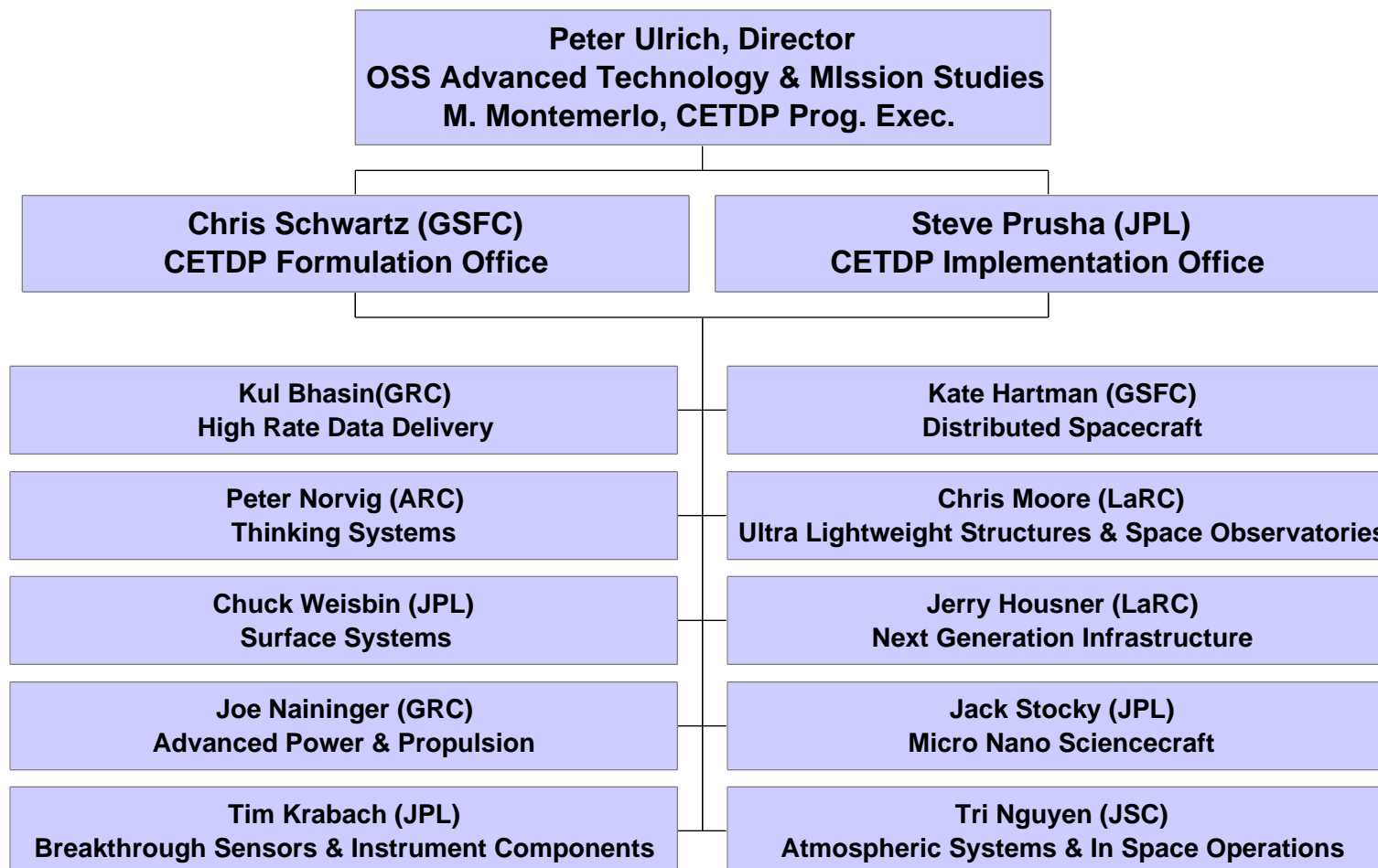


CETDP Program FY00

- **Renewed Focus**
 - Emphasis on Basic R&D: Bulk of program to be at TRL 1-3
 - Co-funding from Enterprises for TRL 4-6 development
- **NASA Centers and JPL R&D programs**
 - Taking cuts from FY99 spending guidelines
 - In house work for FY00 selected by Non-Advocate Review Process
- **Collaboration**
 - 10% of Tasks have industry participation
 - 10% of Tasks have other agency participation
 - 30% of Tasks involve more than one NASA Center



CETDP Organization





FY00 Solicitation Process

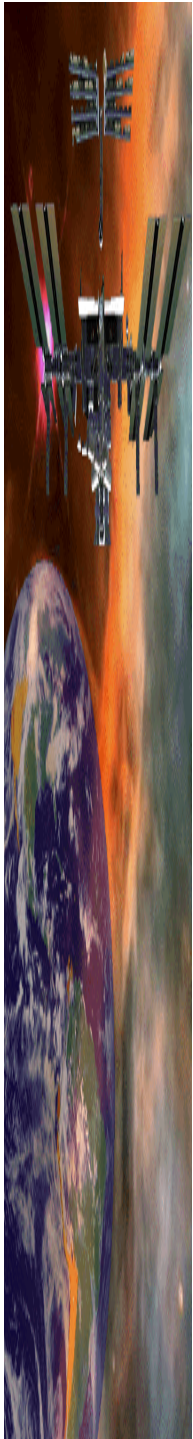


- CETDP Solicitation Guidelines (Top 4 Enterprise Needs) Issued to TAMs - April 99
- Internal CETDP Thrust Area new work proposal solicitation released - May 1999
- New work proposals due to TAMs - June 1999
- Reviewers selected from NASA (preferably Enterprise Representatives) , other government agencies, industry, and academia
- Non-Advocate technical review of new work proposals conducted - July 99
 - Review of current Thrust Area program
 - 10-15 presentation on each proposed technology development task
 - Proposal Q& A
- Numerical scoring was based on an agreed upon CETDP criteria
 - Technical: excellence, competitiveness, feasibility,
 - PI track record, uniqueness of R & D value, infusion potential, etc.
 - Enterprise: Alignment; top level customer priorities; infusion potential
 - Programmatic: multi-enterprise applicability; lower TRL
- Selections based on budgetary guidelines
- Budget and Final Recommendations - August 99



Top 4 ESE Enterprise Needs

- These are the high level needs that were identified by our ESE customer as their highest needs appropriate for CETDP Investments
 - **Advanced Sensors** enable the discovery of new events and interactions which will expand scientific knowledge of the Earth system using NASA's unique vantage points of space, aircraft, and in situ platforms.
 - **Sensor Webs** respond quickly, intelligently and cost effectively to events that occur within the Earth system.
 - **Access to Knowledge** or information system architectures provide easy access to global Earth Science information for science, education and applications
 - **Information Synthesis** enable integrated imagination, simulation, design, and development of new Earth Science architectures, reduce development and operational cost, and, support productive, economical and timely Earth Science missions.
- High level needs have also been identified for the Space Science Enterprise and Human Exploration and Development of Space



FY00 CETDP Technologies

Supporting Earth Science Customers

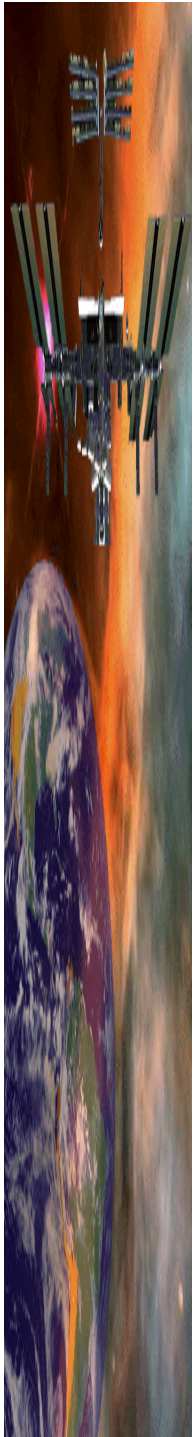


Breakthrough Sensors

- Uncooled Thermopile Broadband Detector Arrays
- High Performance, Large Format, Broad-band and Multi-color Quantum Well Infrared Photodetector (QWIP) Focal Plane Arrays for NASA Applications
- Ultraviolet, Visible and Infrared Imaging Using Hybrid Imaging Technology
- Space Demonstration of an Inflatable Membrane Synthetic Aperture Radar Antenna
- MEMS Transmit/Receive Module for Thin Film Membrane Antennas
- Cryogenic HEMT Optimization Program (CHOP)
- Development of a Compact Conversionless Radar System (CCRS) Using Photonic Processing

MMIC Technology

- On-Orbit Calibration of Synthetic Aperture Radiometers (STAR)
- High Efficiency Diffractive Optics
- Miniature Infrared Hyperspectral Imager
- Compact Lightweight Telescope
- Advanced Semicond Lasers & Photonic Integrated Circuits
- Hybrid Semiconductor Laser Technology Based on Planar Waveguide Circuits
- High-Efficiency Ytterbium Laser Transmitter
- Mars MicroLIDAR for Wind & Dust Profiling
- Advanced Fiber Lasers/Amplifiers for MicroLidar
- High Efficiency, Eye Safe Laser for Remote Sensing
- High-efficiency Oscillator/Optical Amplifier-Array Laser Transmitters



FY00 CETDP Technologies

Supporting Earth Science Customers

- **Surface Systems**

Development of Active Thermal Probe for Icy Earth & Planet Environments

- **Distributed Spacecraft**

Vision-Based Navigation for Spacecraft Formation Flying
(Sensors/Formation

Control Centralized Tracking System Technology (Sensors)

Advanced Aerobot Formation Flying (Formation Control)

Precise Relative State Estimation and Control (Formation Control)

Self-Organizing Distributed Cooperating Spacecraft

(Formation Control)

Autonomous Command & Control for

Formation Flight (Formation Control)

NASA/DoD University Nanosat

Formation Control (Formation Control, Sensors, Testbeds)



FY00 CETDP Technologies

Supporting Earth Science Customers



Micro/Nano Sciencecraft

Rad-Hard reconfigurable Field Programmable Gate Array (RHrFPGA)

Microinductors: Key to Integrated Power Electronics

Radiation-Hardened, Mixed-Signal ASIC for Engineering Data Acquisition and Low-Level Digital Control

A CMOS, Ultra-Low-Power, Radiation-insensitive Technology 8051

Microcontroller NanoSat Structural Battery

Compact Holographic Data Storage (CHDS)

High-Performance Data Compression

CMOS, Ultra-Low-Power, Radiation-Tolerant (CULPRiT)

MEMS Pumped-Liquid Cooling System for Highly Integrated Micro-Nano Sciencecraft

High Rate Data Delivery

Low Loss Miniature Components for SOC

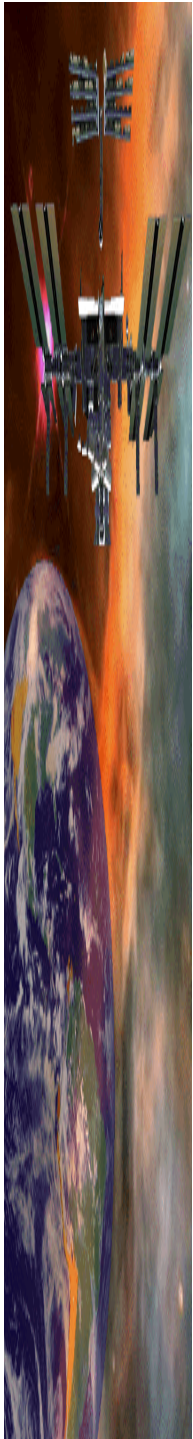
Dynamic Signal Processing Technologies for Optical Communications

SiGe high frequency solid state power amplifier development

Radiowave Propagation Characterization for high rate space communications

High Rate Imagery Processing and Delivery (HRIPD)

Optical Phased Array Development



FY00 CETDP Technologies

Supporting Earth Science Customers



Advance Power and Propulsion

Adv, High Efficiency Solar Cell & Array Technology

Adv Thin Film Solar Cell and Ultra-Light Array Tech

Advanced Photovoltaic Concepts

Fuel Cell Systems Technology

Lithium Battery Technology

Nickel Based Battery Technology

Aerospace Flywheel Technology

Advanced Electrical Components Technology

Power Conditioning, Control & Management

Low Temperature Electronics

Refined Power System Env Design Codes

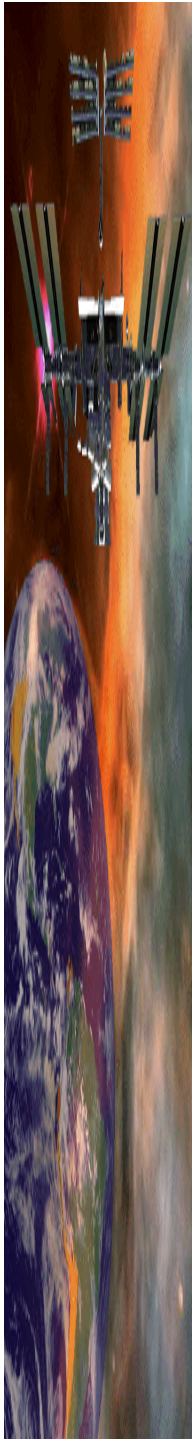
Power System Surfaces/ Materials

NASA Aerospace Flight Battery Program

Advanced Radioisotope Power Systems: Stirling Technology

Advanced Two-Phase Cooling

Electric Ion Propulsion , + More



FY00 CETDP Technologies

Supporting Earth Science Customers



Next generation Infrastructure

Standard Infrastructure and Integration Process

Model Analysis and Synthesis Infrastructure

Ultralight Weight Structures

Development of Inflatable Tensioned Membrane Waveguide Antenna Array for Space Applications

Large Lightweight Mirror Technology for Use at Visible and Near-IR Wavelength

Novel Optical Scanners for Remote Sensing Using Holographic Technologies

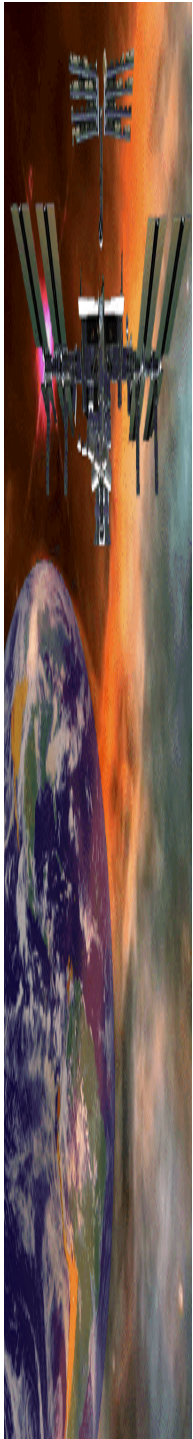
Aluminum Lightweight Optics and Support Structures

Electronic Properties of Materials with Application to Spacecraft Charging

Interactive Spacecraft Charging Handbook

Testing and Optimization of Electrically Conducting Spacecraft Coatings

Gossamer Initiative



FY00 CETDP Technologies

Supporting Earth Science Customers



Thinking Systems

Onboard Science Analysis and Knowledge Discovery

Self Commanding Spacecraft

Contingency Planning for Robust Mission Operations

Science Desk

A Distributed Remote Agent

Temporal and Spectral Data Mining For Earth and Space Science

Testing Autonomous Systems by Analyzing Goal Interactions

Autonomy Lab: Autonomy Systems Prototyping

Model Specification Analysis and Verification for Constraint-based Planning

Automated Data Analysis for Geodetic Sensor Networks

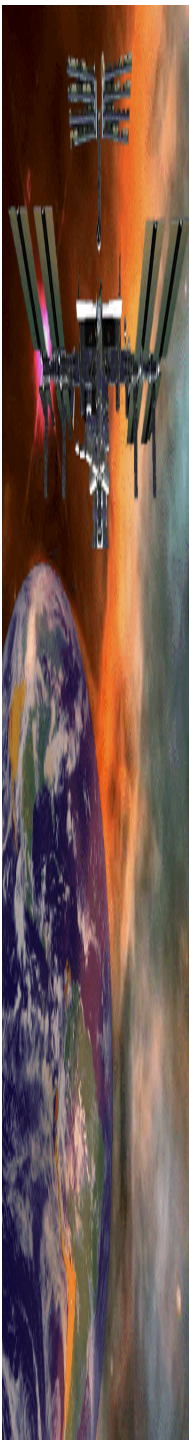
Autonomous Ground System Knowledge Acquisition

Human-Centered Autonomous Agents

Atmospherics and In-Space Systems

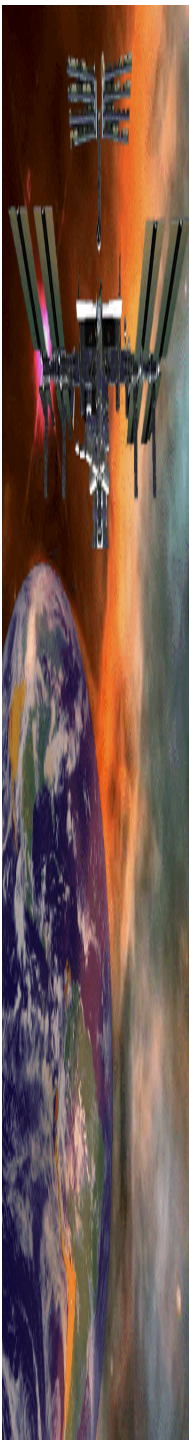
A Maneuverable, Lighter-than-Air Platform Concept for Earth Science,
Planetary Science, and Astrophysics

Spacecraft Onboard IR Networking



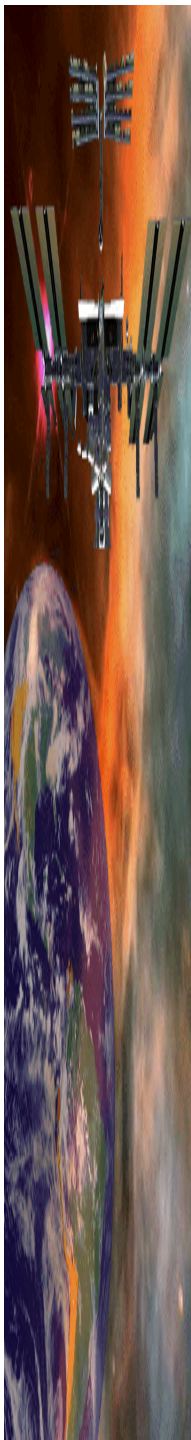
CETDP Schedule

Activity Name	Start Date	Finish Date	1999				2000										
			Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
1 POP Guideline																	
1a POP Guideline Plan	3/1/00							◆									
1b Center Submit	5/11/00										◆						
1c Center CFO Final POP to IPO	6/18/00											◆					
1d Funding to Centers	10/1/99		◆														
2 Meetings/Workshops																	
2a CETDP Program Review Prep	9/1/99	12/15/99	●			●											
2b CETDP Program Review (to Pete Ulrich)	12/15/99					●											
2c CETIB	9/15/99 4/2/00 9/15/00		●						●						●		
2d CETDP Workshops																	
2e Independent Assessment Review (IAR)																	
2f Merit Reviews	8/10/00													●			
3 CETO																	
3a Review/Update CETDP Program Plan	9/1/99	10/1/99	→														
3b Refresh Enterprise Needs/Requirements (FY01)	11/1/99			●													
3c Issue CETDP Guidelines for FY01	12/1/99				◆												
3d Conduct Technology Context Evaluations																	
3e Review Recommended Systems Studies Approach	11/30/99				◆												
3f Initiate Call for Proposals (CFP) for FY01	12/1/99	1/15/00			●	●											
			Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov



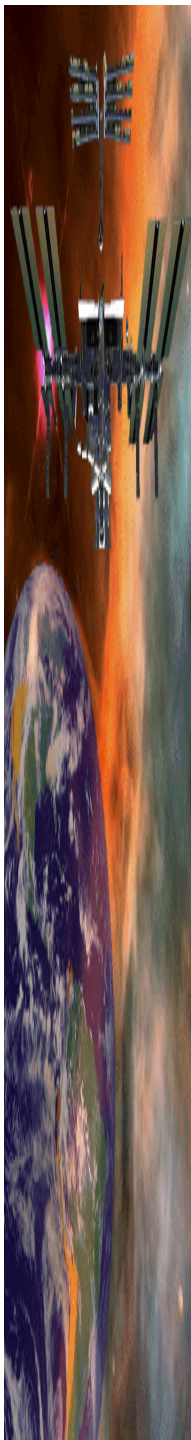
CETDP Schedule

Activity Name	Start Date	Finish Date	1999				2000										
			Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
3 CETO (continued)																	
3g Reviews	1/15/00	2/15/00					▲	▼									
3h Selections	2/15/00							◆									
3i Support Preparation of Advocacy Packages	8/1/00	8/15/00												▲	▼		
3j 632 Budget Spreadsheet Due	3/1/00							●									
3k Publish CETDP Technology Investment Strategy																	
3l Publish Annual Technology Investment Portfolio																	
3m Technology Context Meeting	3/30/00								◆								
3n Issue CETDP RFI for	4/15/00									◆							
3o Conduct FY01 System Studies	4/1/00	11/30/00							▲	▼							
4 Thrust Area Managers (TAM)																	
4a Prepare New Work Proposals	12/1/99	1/15/00				▲	▼										
4b Proposal Reviews	1/15/00	2/14/00					●	●									
4c Prepare Advocacy Packages	8/15/00													◆			
4d Develop Technology Development Plans	2/15/00							●									
4e Prepare Technology Product Agreements	2/16/00	5/1/00						▲	▼								
4f TAM Meetings	10/1/99 6/15/00 10/1/00		●									●			●		
4g TAM Budget Spreadsheet	2/15/00							◆									
			Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov



CETDP Schedule

Activity Name	Start Date	Finish Date	1999				2000										
			Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
3 CETO (continued)																	
3g Reviews	1/15/00	2/15/00					▲	▼									
3h Selections	2/15/00							◆									
3i Support Preparation of Advocacy Packages	8/1/00	8/15/00												▲	▼		
3j 632 Budget Spreadsheet Due	3/1/00							●									
3k Publish CETDP Technology Investment Strategy																	
3l Publish Annual Technology Investment Portfolio																	
3m Technology Context Meeting	3/30/00								◆								
3n Issue CETDP RFI for	4/15/00									◆							
3o Conduct FY01 System Studies	4/1/00	11/30/00							▲								▼
4 Thrust Area Managers (TAM)																	
4a Prepare New Work Proposals	12/1/99	1/15/00				▲	▼										
4b Proposal Reviews	1/15/00	2/14/00					●	●									
4c Prepare Advocacy Packages	8/15/00													◆			
4d Develop Technology Development Plans	2/15/00							●									
4e Prepare Technology Product Agreements	2/16/00	5/1/00						▲		▼							
4f TAM Meetings	10/1/99 6/15/00 10/1/00		●									●			●		
4g TAM Budget Spreadsheet	2/15/00							◆									
			Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov



CETDP NAR Summary

Back-up charts



Advanced Power and On-Board Propulsion



- **NAR Committee**

- Dr. G. Bennett, Consultant (Chair) P. Moleshovsky, NRO
- D. Byers, Consultant C. Peterson, JPL SSE
- S. Krause, Adv. Tech. Pgms, Hughes J. C. Du, ESTO Office
- D. Marvin, USAF T. Davies, JSC, Code M

- **Review Criteria**

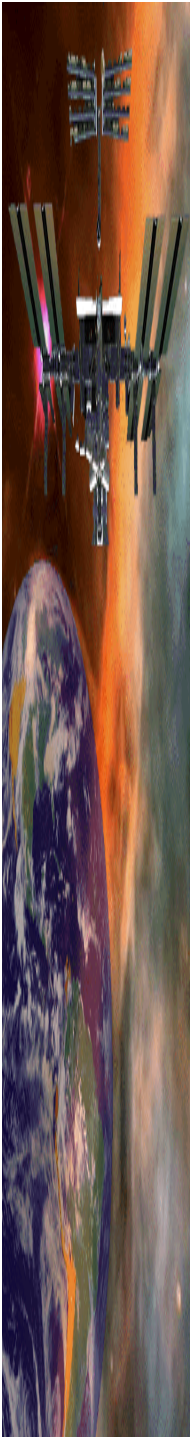
- Relevance to NASA Missions, Program Payoff - Metrics, Past Performance - Accomplishments, Technical Approach
- Programmatic Approach, Partnerships with Others, Existing Commitments & Investments, TRL Evolution
- Quality of Staff and Facilities

- **27 FY 00 proposals reviewed July 28 - 30, 1999**

- Single combined review
- No new work solicited or allowed

- **Inputs to Reviewers: FY00 Proposals (viewgraphs only - no written proposals), Review Criteria**

- **NAR Output: numerical rankings, documented report, Thrust Area recommendations**



Atmospheric and In-Space Systems



- **NAR Committee**

- J. Bertin, USAF Academy
- Prof. S. Everett, U Tennessee-Knox.
- W. Fowler, U. Texas-Austin
- Prof. K. Karavasitis, U. Maryland
- Prof. N. Komerath, Georgia Inst. Tech.
- R. Kress, Oak Ridge National Labs

Prof. G. Nagati, Wichita State U.

Prof. D. Peters, Washington U.

J. Stanley, Consultant, retired NASA

Prof. J. Stubbins, U Illinois-Urbana/Champaign

G. Walberg, N.Carolina St U - Retired

P. Worley, Johns Hopkin U, APL

- **Review Criteria**

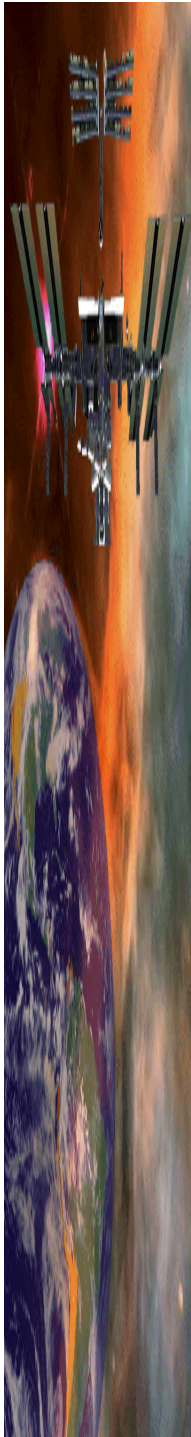
- Technical Merit
- Multi-Enterprise relevance, top-level customer priorities

- **23 FY 00 proposals reviewed July 28 - 29, 1999**

- Single combined review (technical and customer relevance)

- **Inputs to reviewers: proposals, review criteria**

- **NAR Outputs: numerical ranking, recommended work (additional recommended work pending decision on Ranger)**



Breakthrough Sensor and Instrument Component Technology



- **NAR Committee**

- | | | |
|--|---------------------------------|---------------------------------------|
| • Prof. E. Brown, UCLA | Prof. Y. Kuga, U. Washington | Dr. N. White, GSFC, OSS SEU |
| • Prof. T. McGill, Caltech | Prof. H. Meuzelaar, U. Utah | M. Bothwell, JPL, OSS ESS |
| • J. Bacon, U. Pittsburgh, MTAC | Dr. R. Schoolar, Aerospace Corp | Dr. F. Herrero, GSFC, OSS SEC |
| • Dr. E. Hawkins, APL | Prof. H. Temkin, Texas Tech U. | G. Parks, JPL, OSS ASO |
| • Dr. H. Helvajian, Aerospace Corp. | D. Warren, Aerospace Corp | Dr. L. Lemmerman, JPL, OES |
| • Prof. T. Kenny, Stanford U. | Dr. B. Weiller, Aerospace Corp | Dr. W. Hanby, JSC, Heds Life Sciences |
| • Dr. J. Hines, ARC, HEDS Life Sciences (ranking only) | | C. Guidi, KSC, HEDS Exploration |

- **Review Criteria**

- Technical: excellence, SOA awareness & competitiveness, feasibility,
- PI track record, uniqueness of R & D value, infusion potential, etc.
- Enterprise: Alignment; missions enabled; infusion potential
- Programmatic: multi-enterprise applicability; lower TRL

- **Single meeting held at Newport Beach, CA; July 27 - July 28, 1999**

- Combined external technical review with customer relevance review

- **87 FY 00 proposals reviewed**

- **6 Reviewers per proposal average**

- **Inputs to Reviewers: FY 00 proposals, review criteria**

- **NAR Outputs: numerical rankings; recommended tasks; documented report**



Distributed Spacecraft



- **NAR Committee**

- K. Hartman, NASA GSFC
- D. Weidow, NASA GSFC
- F. Hadaegh, JPL
- Dr. K. Luu, AFRL
- R. Burns, AFRL
- P. Patterson, Utah State U.
- Capt. R. Sandfry, Virginia Tech. U.
- H. Seywald, Analytical Mechanics Assoc.

- R. Moser, Aerospace Corp.
- S. Hammers, The Hammers Co
- Dr. C. Lin, American GNC Corp
- Dr. M.C. Wu, UCLA, Prof.
- Dr. H. Petschek, Boston U.
- Ron Kahl, HEDS
- J. Ortiz, HEDS
- A. Benjamin, HEDS

- T. Costello, HEDS
- J. Lamoreux, HEDS
- B. Cockrell, HEDS
- G. Hite, HEDS
- C. Ruoff, Mars Pgm Office
- B. Folkner, SEU-LISA
- A. Szmekowiak, SEU

- **Review Criteria**

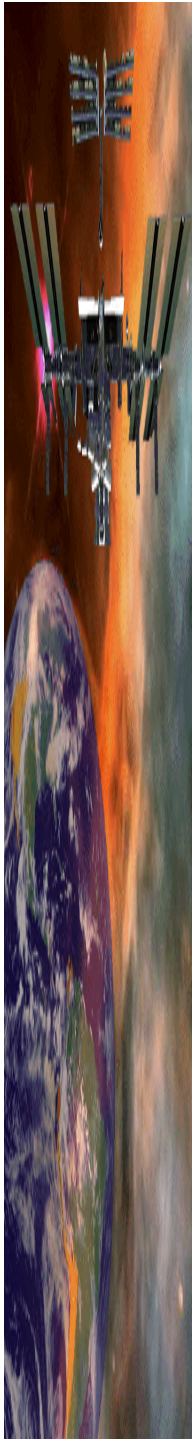
- Technical: excellence, SOA awareness & competitiveness, feasibility,
- PI track record, uniqueness of R & D value, infusion potential, etc.
- Enterprise: Alignment; missions enabled; infusion potential
- Programmatic: multi-enterprise applicability; lower TRL

- **14 FY 00 proposals reviewed July 21, 1999 at GSFC**

- Combined technical and relevance reviews

- **Inputs to reviewers: proposals, review criteria**

- **NAR Output: numerical rankings, documented report, recommended tasks, recommended system studies for FY 01 solicitations**



High Rate Data Delivery



- **NAR Committee**
- T. Brackey, Hughes Space & Comm.
- J. Lathrop, Lockheed Martin
- S. Steele, DOD
- R. Newhouse, DOD
- D. Nicholson, AFRL
- G. Herlich, NRL
- K. Kumm, NRL
- O. Spaulding (ES Rep.), NASA Hqrs.
- B. Teasdale (HEDS Rep.), JSC
- C. Peterson (SS Rep.), JPL
- **Review Criteria:**
 - Technical: excellence, SOA awareness & competitiveness, feasibility,
 - PI track record, uniqueness of R & D value, infusion potential, etc.
 - Enterprise: Alignment; missions enabled; infusion potential
 - Programmatic: multi-enterprise applicability; lower TRL
- **36 FY 00 proposals reviewed July 28 - 29, 1999 at GRC**
- **3 min. to 16 max reviewers per proposal**
- **Inputs to Reviewers: FY 00 proposals, proposal characteristics definition/review criteria, Enterprise Level 1 Technology Package, TRL descriptions**
- **NAR Output: numerical rankings, documented report, summary of HRDD Thrust Area changes**



Thinking Space Systems



- **Committee NAR**

- | | | |
|---|---------------------|-----------------------------------|
| • Dr. M. Boddy, Honeywell Adv. Tech.Ctr. | Dr. Y. Arens, USC | S. Fredrickson, JSC |
| • Dr. S. Sastry, UC Berkeley | Dr. M Freeman, KSC | Dr. J. Malin, JSC |
| • Dr. M. desJardins, SRI Int. | Dr. P. Stolorz, JPL | Dr. P. Cheeseman, ARC |
| • Dr. T. Selker, IBM Almaden Res. Ctr. | Dr. D. DeCoste, JPL | Dr. P. Nayak, ARC |
| • Dr. R. Maclin, U. Minnesota | Dr. J. Wyatt, JPL | Dr. N. Muscettola, ARC |
| • Dr. K. Myers, SRI Int. | Dr. S. Chien, JPL | Dr. M. Shafto, ARC |
| • Dr. C. Green, Kestrel Inst. | M. Szczur, GSFC | D. Lavery, (OSS) NASA HQ, Code SM |
| • Dr. Bart Selman, Cornell U. | R. Connerton, GSFC | D. Silva, et al, (ES) GSFC |
| • Dr. Ron Musick, Jr., Lawrence Livermore Nat. Lab. | B. Savely, JSC | R. Kahl, et al, (HEDS) JSC |

- **Success Criteria:**

- Technical merit, Enterprise relevance, degree of innovation, significance, methodology, technical feasibility, SOA awareness, investigator track record

- **22 FY 00 proposals reviewed July 26 - 27 1999**

- Combined technical and relevance reviews

- **Inputs to reviewers: presentations, TRL descriptions, review criteria**

- **NAR Output: Numerical rankings, proposal recommendations**



Micro-Nano Sciencecraft

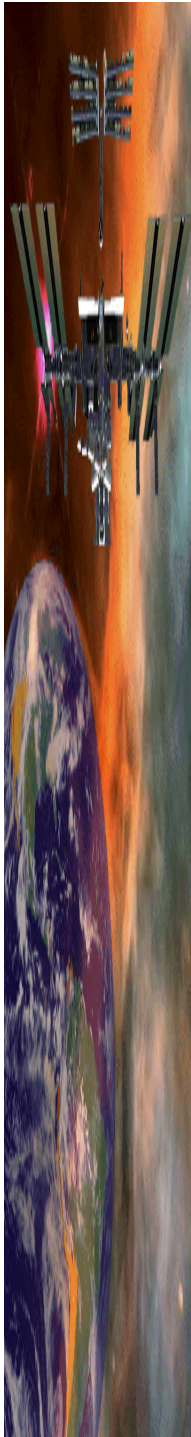


- **NAR Committee**

- H. Helvagian, Aerospace Corp.
- A. Medina, Sandia National Lab.
- Dr. A. Pisano, DARPA
- K. Roy, Purdue U.
- K. Smith, Rice U.
- Prof. R. Twiggs, SSDL, Stanford U.
- G. Witt, AFOSR
- M. Bothwell, JPL SEE
- R. Connerton, GSFC SEU
- M. Calabrese, NASA HQ SEC
- R. Kahl, JSC HEDS
- L. Lemmerman, JPL ESTO

- **Review Criteria:**

- Technical: excellence, SOA awareness & competitiveness, feasibility,
- PI track record, uniqueness of R & D value, infusion potential, etc.
- Enterprise: Alignment; missions enabled; infusion potential
- Programmatic: multi-enterprise applicability; lower TRL
- **Two separate meeting held at Newport Beach, CA; July 28 - 29, 1999, and at the JPL Washington Business Office August 5 - 6 1999**
 - First meeting for NAR, Second meeting to formulate program recommendations with Center POC's
- **55 FY 00 proposals reviewed**
- **Inputs to Reviewers: FY 00 proposals, FY 99 task presentations, review criteria, TRL definitions,**
- **NAR Outputs: numerical rankings; recommended tasks; documented report**



Surface Systems



- **NAR Committee**

- E. Heer, Heer Associates (Chair)
- G. Bekey, Univ. Southern Calif.
- P. Khosla, Carnegie Mellon Univ.
- J. Wen, Rensselaer Poly. Inst.
- R. Arkin, Georgia Tech
- P. Eicker, Sandia National Labs
- M. Jamshidi, Univ. New Mexico
- J. Albus, NIST
- M. Drake, University of Arizona
- H. Newsom, Univ. New Mexico
- R. Ash, Old Dominion Univ.
- L. Clark, Lockheed Martin
- A. Bruckner, Univ. of Washington
- M. Bothwell, JPL (OSS Rep)
- D. Reister, Oak Ridge Nat. Lab
- C. Neal, Notre Dame University
- M. Conley, JSC (HEDS Rep)
- D. Silva, GSFC (ESE Rep)

- **Review Criteria:**

- Technical: excellence, SOA awareness & competitiveness, feasibility, PI track record, uniqueness of R & D value, infusion potential, etc.
- Enterprise: Alignment; missions enabled; infusion potential
- Programmatic: multi-enterprise applicability; lower TRL

- **Single meeting held at Oxnard, CA; July 13-14, 1999**

- Combined technical and relevance reviews

- **14 FY 99 tasks & 59 FY 00 proposals reviewed**

- **6 Reviewers per proposal average**

- **Inputs to Reviewers: FY 00 proposals, FY 99 task presentations, review criteria**

- **NAR Outputs: numerical rankings; recommended tasks; documented report**



Ultra-Lightweight Structures and Space Observatories

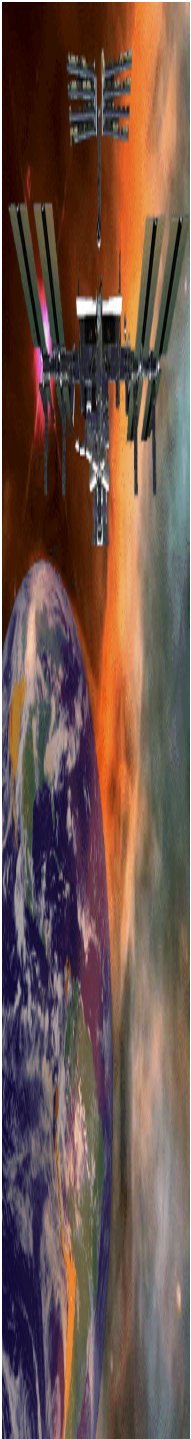


- **NAR Committee**

- B. Allen, Harris Corp
- B. Banks, NASA GRC
- J. Bilbro, NASA MSFC
- C. Jenkins, S.Dakota Sch. Mines & Tech.
- T. Lim, NRL
- T. Martinez, AFRL
- P. Maymon, NASA GSFC
- M. Mikulas, U. Colorado
- R. Capps, JPL
- N. White, GSFC
- S. Rawal, Lockheed Martin Astronautics
- G. Sommargren, Lawrence Livermore Nat. Lab.
- J. Starnes, NASA Langley Research Ctr.
- W. Stuckey, Aerospace Corp.
- D. Vandenberg, Eastman Kodak Co.
- B. Wada, JPL
- P. Wegner, AFRL
- N. Woolf, U. Arizona
- M. Bothwell, JPL
- M. Ryschewitsch, GSFC, Earth Science Ent.

- **Review Criteria:**

- Technical: excellence, SOA awareness & competitiveness, feasibility,
- PI track record, uniqueness of R & D value, infusion potential, etc.
- Enterprise: Alignment; missions enabled
- Programmatic: multi-enterprise applicability; lower TRL
- **85 proposals were evaluated by NAR July 13 - 14, 1999**
- **38 remaining proposals were evaluated by customer reps. July 29, 1999**
- **Inputs to reviewers: Proposals, TA plan, review criteria, proposal solicitation**
- **NAR Output: numerical rankings, recommended tasks, changes in thrust, gap analysis of selected program, NAR report**



Next Generation Infrastructure



- **NAR Committee**

- F. Peri, ES Rep, LaRC
- S. Prey, Boeing
- M. Gersh, Lockheed-Martin
- J. Peterson, JPL
- D. Korsmeyer, ARC
- D. Craig, ISE Office, LaRC
- A. Noor, Va. Tech
- D. Stetson, JPL

- **Review Criteria**

- Technical merit, alignment to TA plan, Enterprise applicability

- **Review held July 28, 1999**

- **Inputs to reviewer: FY 00 proposals, TA charter description, TRL definitions, Product Breakdown Structure, Current program product Descriptions**

- **NAR Output: Numerical rankings, Proposal recommendations**